

Largo Double Beam Freestanding Pergola with 5"x 5" Posts Installation Guide



Patent Pending. Copyright 2013 USAVinyl, LLC - All Rights Reserved - The information contained in these instructions are proprietary to USAVinyl, LLC and may not be used or reproduced for any purpose other than for the evaluation purpose for which it was provided.

weatherables
by USA Vinyl

Before You Begin Installation

Consult your local authorities for any permits required to construct the pergola.

Check with local building code officials to review any required permits or building limitations.

Read instructions thoroughly prior to assembly.

If you have questions or concerns with this product please **DO NOT** return before consulting a product specialist. Please refer all questions and concerns to our product specialist at 1-888-743-3673.

Due to the size of the parts, at least two people are required to handle, fit and secure pergola components.

Read manual first as mounting hardware varies with each application. Do not anchor to paver bricks. Foundation must be a solid surface.

Do not stand, sit, store, or hang items on the pergola.

Repair or replace broken parts immediately. Call 1-888-743-3673 for replacement parts.

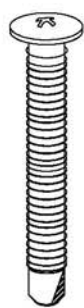
At regular intervals inspect your pergola to make sure that assembly integrity has been maintained.

The installation video can be found at:
<http://www.usavinyl.com/vinyl-pergola-installation.html>

Tools Required for Inatallation:

- | | |
|---|--|
| 1. Extension Cord | 10. String Line |
| 2. Hammer Drill | 11. Level |
| 3. Reciprocating Saw
(optional only if you are cutting
down material) | 12. Tape measure (min 25') |
| 4. Power Drill | 13. 2 Ladders (for at least the height of
your pergola) |
| 5. 1" Wing Tip Drill Bit | 14. Rubber Mallet |
| 6. Drill Bits - 5/16", 3/16" | 15. Ratchet |
| 7. Phillips Screwdriver Bit | 16. Deep Socket - 1/2" |
| 8. Masonry Bit - 3/8" | 17. Standard Socket - 9/16" |
| 9. Pencil | 18. Carpenter's Square |
| | 19. Safety Glasses |

Hardware



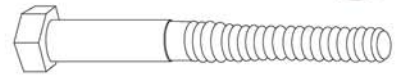
A

#10 x 2 1/2" Self
Tapping Screw



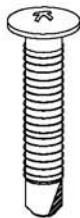
B

3/8" x 5"
Wedge Anchor
(with washer and nut)



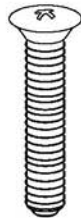
C

5/16" x 4" Lag Bolt
(for connecting the 2"x8"
headers to the posts)



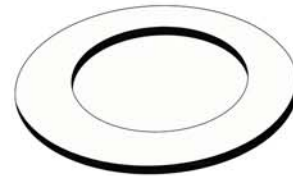
D

#10 x 1 1/2" Self
Tapping Screw



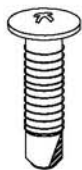
F

#14 x 2" SS Screw



G

5/16" Flat Washer



E

#10 x 1" Self
Tapping Screw

H

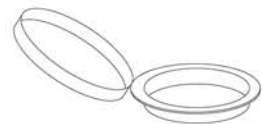


1" Hole Plug



I

Glue



J

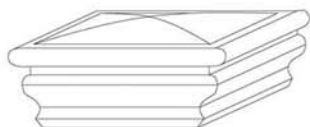
Hinged Screw Cap

* Insert screw into cap
before installing

Hardware Quantities

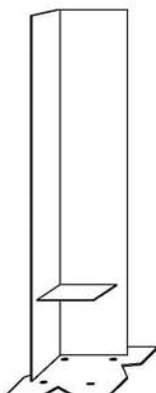
Pergola Size	A	B	C	D	E	F	G	H	I	J
12x12	279	16	16	16	116	32	16	16	1	403
14x14	360	16	16	16	128	32	16	16	1	496
16x16	462	16	16	16	140	32	16	16	1	610

Post Parts



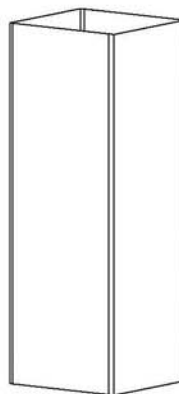
K

4" Post Cap



L

Concrete Post Mount

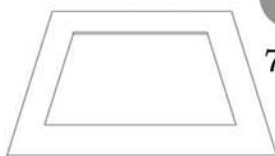


M

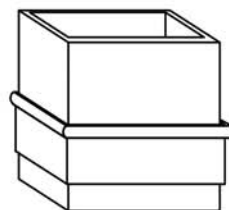
Vinyl Sleeve
4"x4"x24"



N

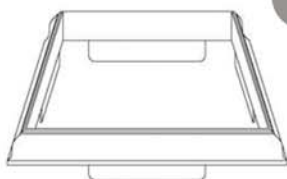
Post
Spacer

7" Square Gasket



Q

Interior Post Adapter



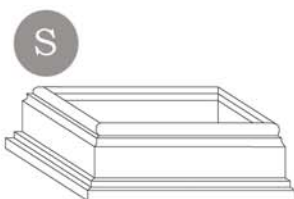
P

5"x4" Adapter
for 5" Post



R

Vinyl Post
5"x5"



S

5" Post Dress Skirt



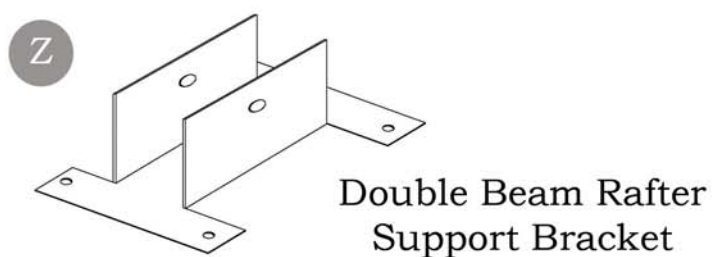
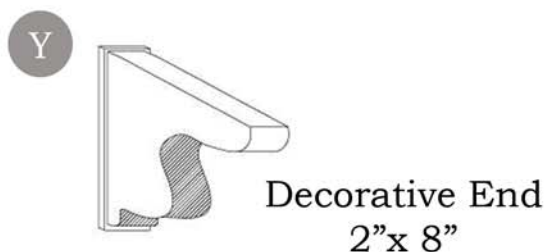
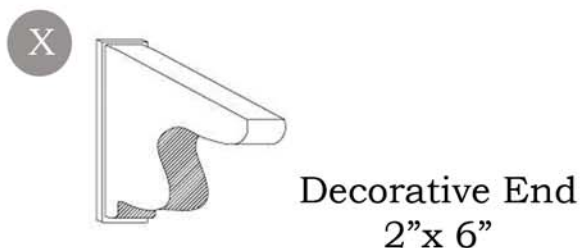
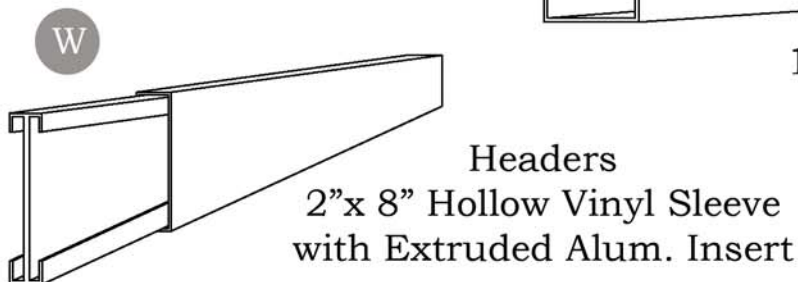
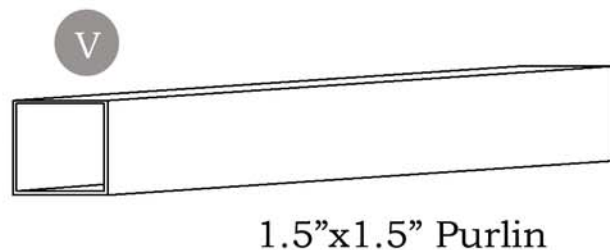
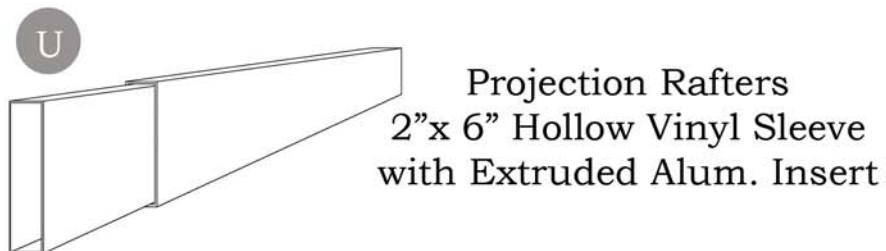
T

Wood Post
4"x4"

Post Parts Quantity

[illegible]

Canopy Parts



Canopy Parts Quantity

Pergola Size	U	V	W	X	Y	Z	AA		
12x12	9	31	4	18	8	18	62		
14x14	10	36	4	20	8	20	72		
16x16	11	42	4	22	8	22	84		

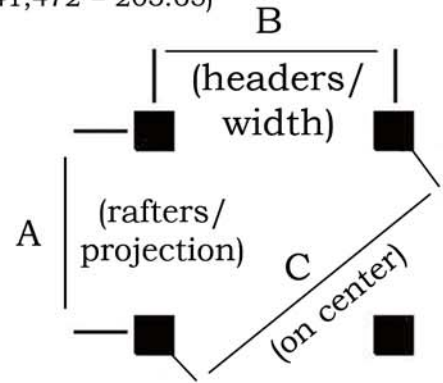
Section 1: The Posts

A. Preparation for Post Installation

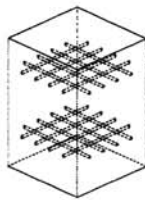
The post layout below is a suggestion for squaring your posts: other methods can be used to get the same results. The formula for squaring post is $A^2 + B^2 = C^2$

(Ex: $144^2 + 144^2 = 20,736$, $20,736 + 20,736 = 41,472$, $\sqrt{41,472} = 203.65$)

Pergola Size	(A) Rafter 2x6 (projection)	(B) Header 2x8 (width)	Number of posts	(C) Diagonal in inches (approx.)
12x12	144"	144"	4	203.65"
14x14	168"	168"	4	237.63"
16x16	192"	192"	4	271.53"



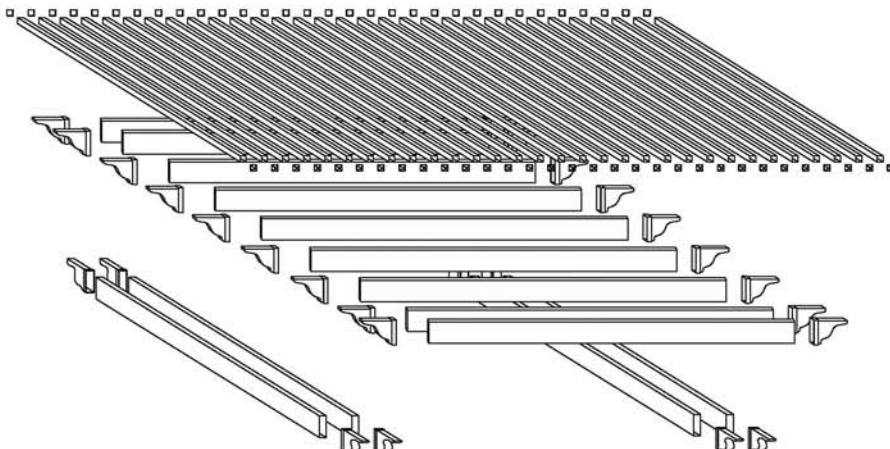
**CHOOSE CONCRETE MASS FROM CHART BELOW
BASED ON WIND SPEED :**



Wind Speed	Mass cu ft	Depth	Length & Width
140MPH	7.2	2'	1'-10.75" SQUARE
		2'-6"	1'-8.25" SQUARE
		3'	1'-6.5" SQUARE
120MPH	5	2'	1'-7" SQUARE
		2'-6"	1'-5" SQUARE
		3'	1'-3.5" SQUARE
100MPH	3.6	2'	1'-4" SQUARE
		2'-6"	1'-2.5" SQUARE
		3'	1'-1.25" SQUARE
80MPH	2.5	2'	1'-1.5" SQUARE
		2'-6"	1'-0" SQUARE
		3'	11" SQUARE

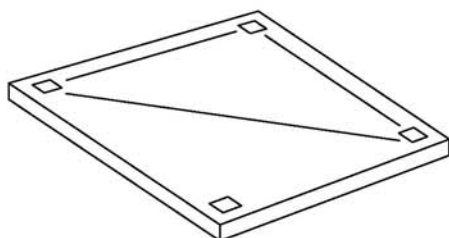
**CONCRETE SHALL BE A MINIMUM OF 3000PSI COMPRESSIVE STRENGTH
WITH 2 MATS OF GRADE 60, #4 REINFORCING STEEL,
6" CENTER TO CENTER, E-W**

**GENERALLY SYSTEM MAY BE MOUNTED ON AN EXISTING CONCRETE
SLAB, HAVE SLAB EVALUATED FOR STRUCTURAL INTEGRITY.**



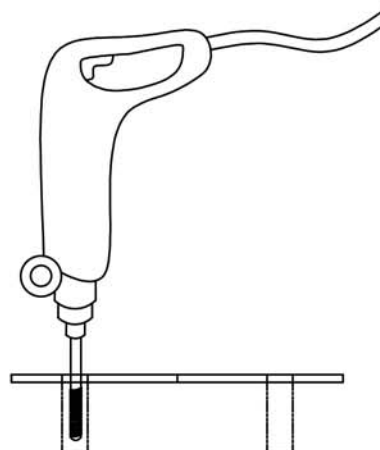
Post Set Up

1



Lay out and mark the location of the posts according to the pergola size.

2



Place, square and trace each concrete post mount. (L) Pre-drill concrete mount holes with hammer drill at 4 1/2" depth with 3/8" masonry bit.

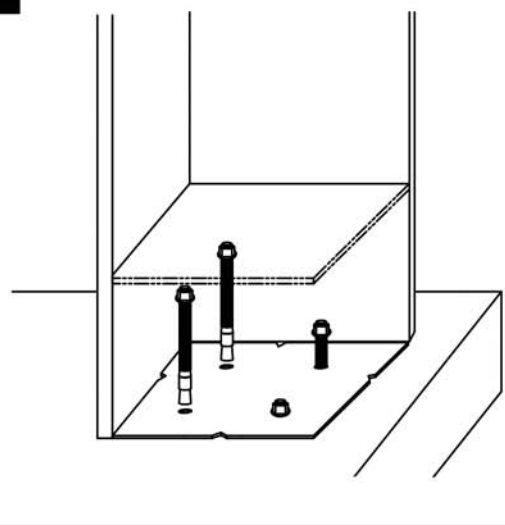
Do not rush.

3



Line up the wood post with the concrete post mount (L) and pre-drill the holes of the concrete mount into the wood. Install the #14 x 2" wood screws into the pre-drilled holes.

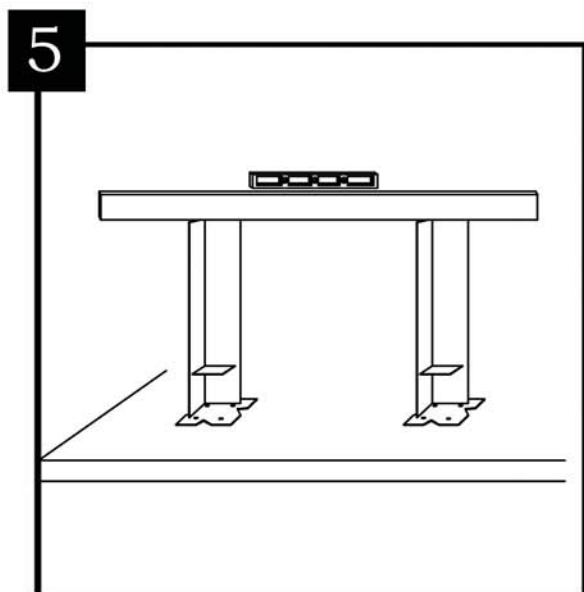
4



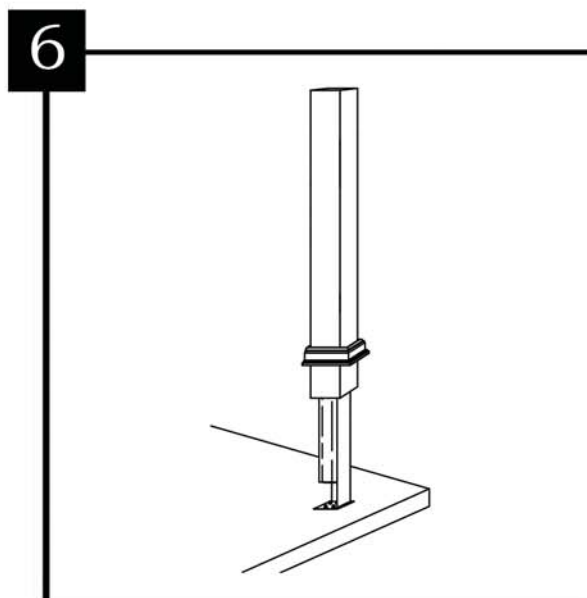
Place wedge anchors(B) into each hole and tap into concrete leaving 1" above the concrete. Place concrete post mount (L) over the installed anchors and install washer and nut to each anchor. Level and tighten with 9/16" socket.

Do not over tighten.

Section 2: Vinyl Sleeve Installation



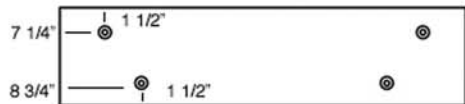
Check to see if your post are level and that your concrete mounts are matching in height by using one of your rafters. If posts heights are not the same, you will need to choose the lowest concrete mount to base the height of your posts. After leveling, cut your vinyl posts accordingly from the bottom.



Place your post skirt (I) over your vinyl post (H). Place the post over the concrete mount.

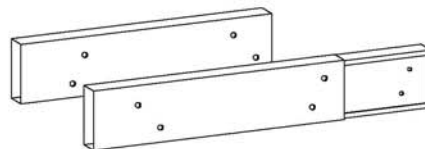
Section 3: Header Prep & Installation

7



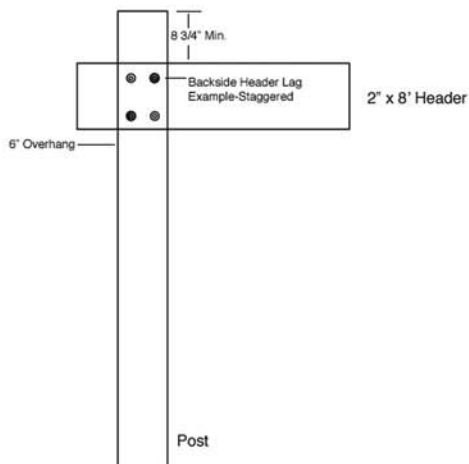
Mark the holes for the lag bolt on the 2" x 8" header. (W) Do this on both the left and right side.

8



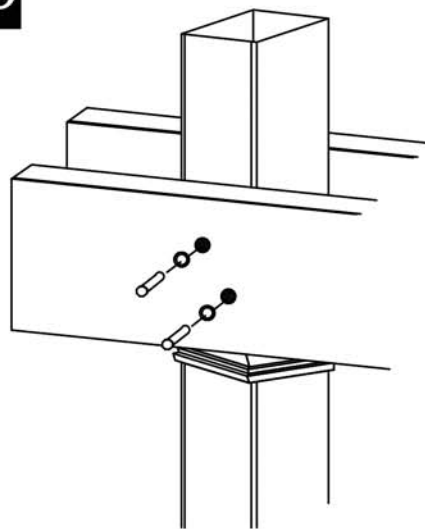
Slide aluminum out of the way. Pre drill each mark through the 1st layer of the header with a 1" wing-tip bit. Slide aluminum back in place and use 1" hole as a guide to drill through aluminum and backside of header with a 5/16" drill bit.

9



Position header next to the post on the width length. Make sure there is at least 6" of overhang from the end of the header to the 4" post sleeve. Use a 3/16" bit to drill through the previously drilled holes of the header into the 4" post and wood.

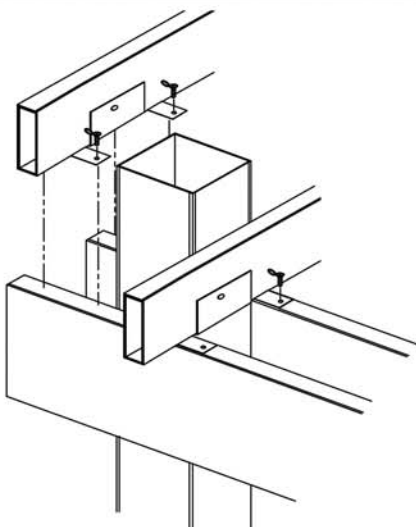
10



Install 5/16" x 4" lag bolts (C) and washers (G) through the vinyl and aluminum into the wood post. Tighten with 1/2" socket.

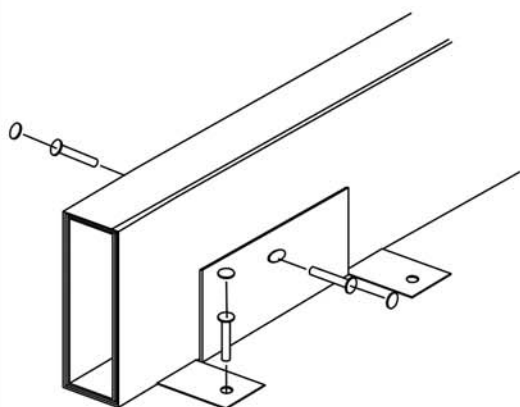
Section 4: Rafter Installation

11



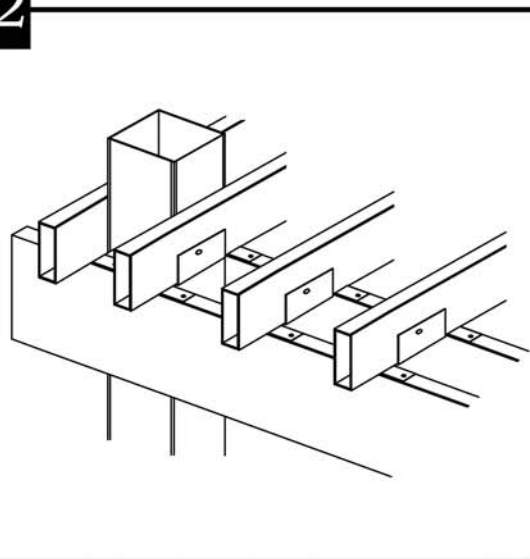
Set and install inside and outside post rafters (U) first. Your measurement is approximately 4" from the end of the rafter to the upright of the double beam rafter support bracket. (Z) Secure the rafters and the brackets to the headers using #10 x 1" (E) screws and hinged screw caps (J).

13



We recommend placing the remaining rafters in the double beam rafter support brackets and space them equally before securing the rafter brackets to the headers.

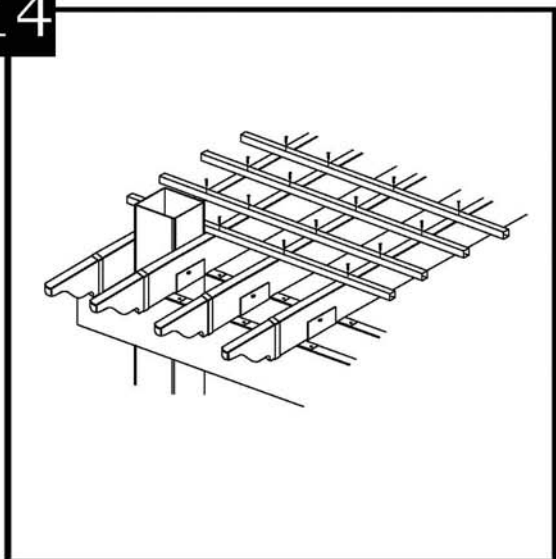
12



Position the rafters approximately 22-24" on center. Do not attach until you have spaced the purlins first. If you modify the projection or width these measurements will change.

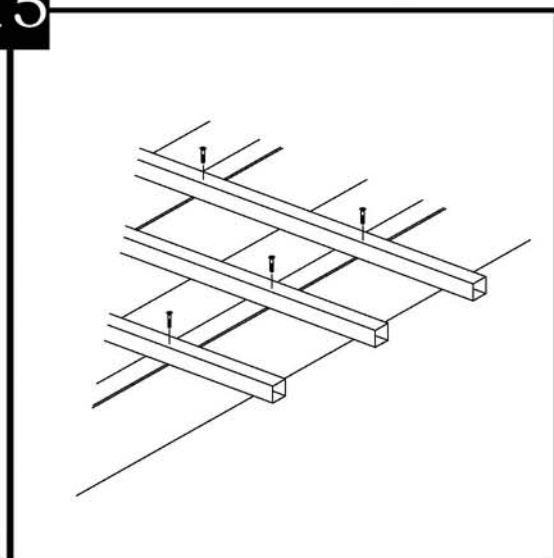
Section 5: Purlin Installation

14

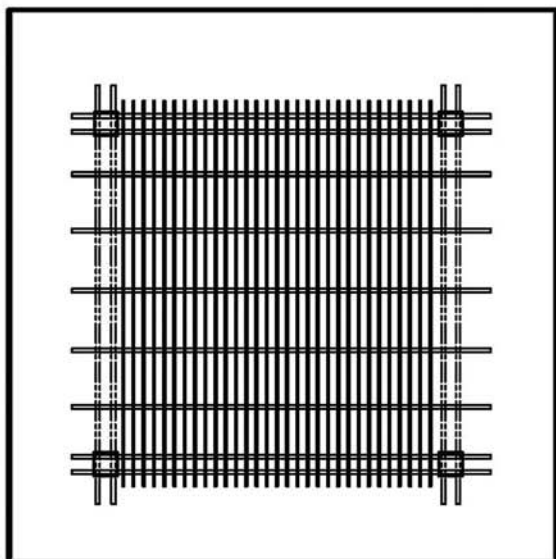


Place the purlins (V) on top of the pergola and space them evenly. The overhang should be the same on both sides.

15

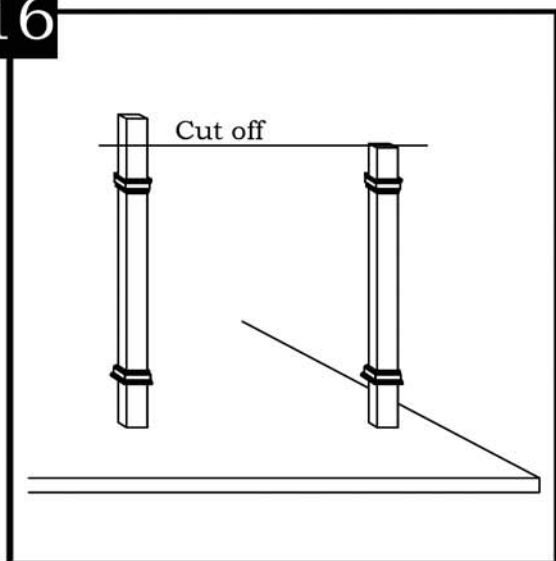


Once properly positioned, use the #10 x 2.5" self tapping screws (A) and screw caps (J) to secure the rafters to the rafters. **Do not** over tighten the screws as this will cause dents in the purlin.



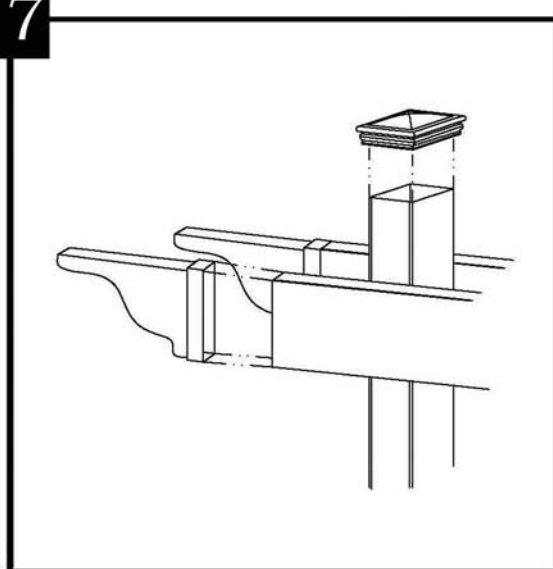
Section 6: Finish Work

16



If needed, trim off any excess post sleeve. There must be at least 2" for the cap to fit correctly.

17



Install 1" hole plugs (H) in the headers. Place and secure the 4" post caps (K), decorative ends (X,Y) and purlin caps (AA) with glue.(I)

